Redstone Arsenal
Chlorine Monitoring Stations

Title: Potable Water System Chlorine Monitoring Stations
Installation: Redstone Arsenal, Alabama
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Mission Benefits: Enhances Redstone Arsenal's ability to provide safe drinking water to military, civilians, and contractors personnel who develop, acquire, and fielding superior aviation and missile systems for our war-fighters and allies; Provides a means for pinpointing problem areas in the drinking water distribution system and resolving them before they become a safe/health issue.

Cost Benefits: Significantly reduces the likelihood for costly NOVs from State and Federal regulating agencies; NOVs can lead to fines and penalties of $25,000.00 per day; Also, reduces the need for routine site visits to monitor the drinking water quality throughout the distribution system;

Environmental Benefit: Provides the capability to constantly monitor the drinking water quality at the various locations in the system; Helps track and diagnose system problems and allows plant operators to address problems sooner.

Chlorine Monitoring Station

Description: Redstone Arsenal conducted routine flushing of its drinking water distribution system to remove stagnated water and potential contaminants. During 1995 and 1996, many organizations moved from the south end of the Arsenal to new facilities in the center of the Arsenal. Additionally, one large GOCO, Thiokol, moved off the installation. As a result, the water usage as well as the water quality in various areas dropped significantly. As part of a supplemental environmental project, 13 chlorine monitoring stations were installed throughout the distribution system. They help monitor chlorine residuals; identify low flow areas; and determine when flushing is necessary to ensure excellent water quality. The system, which includes an analyzer, chlorine sensor, pH sensor, and data transmitter, monitors the level of free chlorine and water pH and transmits the results for displays on a computer screen at the water treatment plant and other remote locations.

Cost: $400,000.00

Lessons Learned:

1. When conducting master planning functions, the impact on existing utility systems should be a key issue to consider.

2. Routine flushing doesn't resolve water quality problems when water usage drops and water turnover is not adequate to maintain a constant flow of fresh drinking water.

3. Initial system design was inadequate which caused system not to function as intended and we had to spend additional funds to fix the problem.

4. Never report to EPA that a project is completed until you have personally observed that every aspect of the project is completed and functioning as intended.

Points of Contact:

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